

# *Gangrenous Segment of Ileum and Mesenteric Lymphadenitis Caused by Tuberculous Peritonitis : Report of A Case*

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## **Abstract**

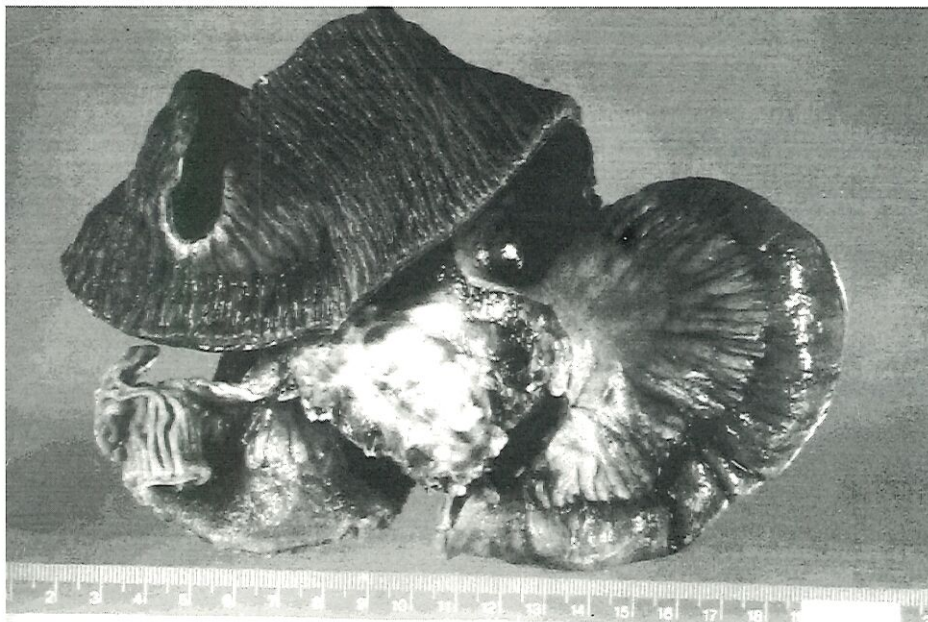
The case is described of a young Thai man with acute abdominal pain that mimics acute appendicitis. He had left upper lung infiltration which no acid fast bacilli was seen on the AFB stains. He was operated on the preoperative diagnosis of acute appendicitis but gangrenous segment of ileum and mesenteric lymphadenitis which demonstrated Acid-Fast-Bacilli were found. Gangrene of intestine together with mesenteric lymphadenitis was an unusual presentation of abdominal Tuberculosis that has not previously been reported.

**Key Words:** *Clinical presentation, Treatment, T.B.*

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Tuberculosis probably occurred as an endemic disease among animals long before it affected humans.<sup>1</sup> It probably occurred as a sporadic and unimportant disease of humans in their early history. Epidemic spread began slowly with increasing population density around the world. It becomes the world's foremost cause of death from a single infectious agent and remains the cause of significant morbidity and mortality. Despite the decline of incidence, morbidity and mortality which have been much reduced by vaccination with BCG and chemotherapy, but the increase risk of progressive disease from new tuberculous infection and reactivation of dormant infection in person infected by human immunodeficiency virus (HIV) becomes a seriously new problem. The symp-

toms and signs of gastrointestinal and peritoneal tuberculosis are nonspecific, and unless a high index of suspicion is maintained, the diagnosis can be missed or delayed resulting in increase morbidity and mortality. Only 15-20 per cent of patients have concomittent active pulmonary tuberculosis.<sup>2</sup> Abdominal mass, intestinal obstruction, intestinal perforation, hemorrhage, fistula formation, stricture, and mesenteric lymphadenitis have been reported<sup>2-10</sup> in the literature as the manifestations of abdominal tuberculosis. We reported a case of abdominal tuberculosis with symptoms of abdominal pain resemble acute appendicitis but the pathological finding was gangrenous ileum and mesenteric lymphadenitis. Search of the available literatures did not reveal any other similar case.



**Fig. 1** Photograph of the specimens of gross appearance of gangrenous ileum and mesenteric lymphadenitis.

### CASE REPORT

A 28-year-old Thai male with no significant past illness, was admitted to Ramathibodi Hospital on September 8, 1998, with a one day history of severe abdominal pain. There was anorexia, nausea, vomiting after insidious onset of colicky periumbilical pain. The pain was progressive and changed to severe dullness of the right lower quadrant abdominal pain within 12 hours. There was no fever, no alteration in bowel habit, and no previous history of abdominal surgery. On physical examination, he was in acute distress. His vital signs were as follows: body temperature 36.5 °C, blood pressure 140/90 mm Hg, pulse 90 per minute, respiratory rate 20 per minute. No anemia or jaundice was detected. The abdomen was scaphoid with area of tenderness and guarding in the right lower quadrant. No rebound tenderness and no hepatosplenomegaly was detected. The rectal examination revealed no mass, no bulging of cul-de-sac, but tenderness at right lower quadrant of abdomen was noted. The complete blood count revealed hematocrit 36 per cent, WBC 11,800 cell per mm<sup>3</sup>, neutrophils 74 per cent, lymphocytes 20 per cent, monocyte 6 per cent, and peripheral blood smear was normal. The urine and liver function test were normal. Chest radiograph

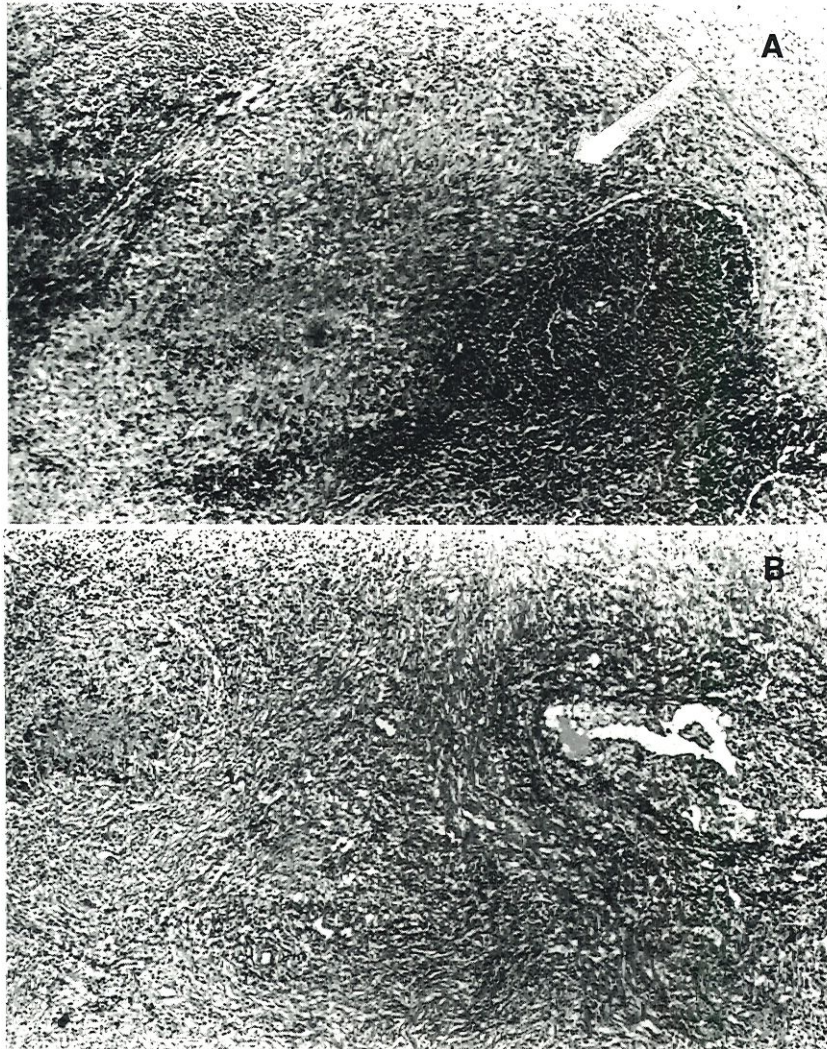
showed left upper lung infiltration. The sputum AFB stain was negative for 3 days. Elisa Anti-HIV test was negative.

The preoperative diagnosis was acute appendicitis and appendectomy was performed through the Grid-Iron incision. Serosanguinous fluid and gangrenous ileum were found. Then the skin incision was converted to a midline laparotomy incision and approximately 500 ml of serosanguinous fluid was encountered. The segment of ileum was found to contain a gangrenous segment of bowel measuring 50 cm long at 15 cm proximal to ileocecal valve (Figure 1). There was a mass of mesenteric lymphadenopathy measuring 5 × 8 × 3 cm with a ruptured site measured 1 cm in diameter that had purulent content. Gram stain and AFB stain showed mononuclear cell but without organism. No organism was grown from the cultured specimens. Segmental resection of the gangrene of ileum with mesenteric lymph node was performed and bowel continuity was accomplished by end-to-end jejunojunctionostomy. The pathological findings of the resected specimens were as follows:

**Ileum:** Hemorrhagic necrosis

**Mesenteric lymph nodes and mesentery:** Necrotizing caseous granulomatous inflammation (Figure 2).





**Fig. 2 A.** Photomicrograph of the mesenteric lymph node showed necrotizing caseous granuloma (arrow) which extended to the capsule. (H & E,  $\times 40$ )

**B.** Photomicrograph of the mesentery which was also involved by necrotizing caseous granulomas (on the left of the picture). One branch of the mesenteric artery showed infiltration of the inflammatory cells with organized thrombus in the lumen (on the right of the picture). (Elastin stain,  $\times 40$ ).

#### **Appendix:** Acute periappendicitis.

The Ziehl-Neelsen stain demonstrated Acid Fast Bacilli in lymph node specimens.

#### **DISCUSSION**

The histological features of tuberculosis are characteristic and similar in all sites of infection. The hallmark of active infection is the necrotizing epithelioid cell granuloma.<sup>10</sup> Tuberculosis can cause lesions in any tissue or organ of the body, but most frequently involves the lung. Tuberculosis can affect any part of the gastrointestinal tract, but it is most commonly

found in the terminal ileum and ileocecal region. It is rare to see tuberculosis in the colon and rectum. The signs and symptoms associated with enteric tuberculosis are highly variable; abdominal pain and right lower quadrant mass are common findings. They can manifest as mechanical small bowel obstruction, appendicitis, and even colonic obstruction. Acute obstruction and perforation are frequent complications. Tuberculosis can cause single or multiple strictures with mucosal ulceration, hemorrhage, and fistula formation. The ulcers tend to be annular (transverse) in distribution. The submucosa is charac-



teristically obliterated in tuberculosis, with severe associated fibrosis. This fibrosis results in hypertrophic or ulceroconstrictive forms of disease. Granulomata are well formed, found in Peyer's patches and lymphoid follicles, and almost always are found in regional lymph nodes. Enterocolitis may result from acute infection and perforation with the development of peritonitis, and ascites may occur. Necrosis may or may not be present in the granuloma, and the diagnosis is secured by the demonstration of tubercle bacilli on acid-fast stain and by culture of the tissue.<sup>11</sup> The stains are more often positive in cases with caseating granulomas.

Medical treatment is usually sufficient, and surgical intervention is reserved for those patients with permanent obstruction. The prognosis depends on the extent of infection in the body

Our patient was also unusual in that he had gangrene of ileal segment together with mesenteric lymphadenitis which demonstrated necrotizing caseous granulomatous inflammation and Acid-Fast-Bacilli. No vulvulus or adhesion band was found to be the cause of gangrene. The treatment was resection of the gangrenous ileum with mesenteric nodes and end-to-end anastomosis of the remaining small intestine. The post-operative recovery was good and the patient received 2 months of Isoniazid, Rifampicin, Pyrazinamide, and Ethambutol then 4 months of Isoniazid and Rifampicin. The patient was followed up by scheduled visits without any complications.

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